DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1,3,5,7,8,10,14,15,18,20,22,24,26,28,30,32,58,60-70 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morgan (6029395 on form PTO-1449) in view of Mankiewicz (6946496) and Chiaffredo et al. (5441877).

For claims 1,3,58, Morgan teaches a mixture in dry-powder form (the mixture initially is in dry-powder form due to the ingredients making up the mixture such as granules, flour, saw dust, etc. (see col. 2, lines 35-37,col. 3,lines 10-38)) for forming a film or membrane (the mixture is a slurry sprayed over soil to form a film or membrane, col. 1,lines 60-61,col. 5,lines 65-67,col. 6,lines 1-30,col. 7,lines 16-24) for treating at least one of a soil surface and/or a soil mass, the mixture comprising the mixture including a basic powder mixture of a water-soluble, dried and ground organic raw material (col. 2,lines 52-65,col. 3,lines 1-20); a thickening agent (col. 3,lines 40-67); and a pigment (col. 5,lines 1-10); wherein at least one component of the mixture in dry-powder form has a sufficient antioxidising effect to ensure that the film or membrane has an antioxidising effect on surroundings soil and air just above ground level (col. 5,lines 1-19); and wherein the powder mixture is saturated with electrons to at least electrical neutrality; and wherein the film or membrane is formed by spreading the

mixture over the soil surface or by arranging the mixture in the soil mass (col. 1, lines 50-62,col. 6, lines 1-30).

However, Morgan is silent about the dried and ground organic raw material comprising vegetable debris that is at least one of dried and ground seaweed, sea grass or kelp, and that 3 to 6 parts by weight thereof are used in the mixture; and wherein the powder mixture is saturated with electrons to at least electrical neutrality.

Chiaffredo et al. teach in the same field of endeavor of soil mixture as Morgan in which Chiaffredo et al. employ seaweed in their mixture because seaweed is rich in organic matter for nutrients (col. 5,line 27). It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ seaweed as taught by Chiaffredo et al. in the mixture of Morgan in order to enhance plant growth because seaweed is rich in nutrients.

Morgan as modified by Chiaffredo et al. is silent about 3 to 6 parts by weight of seaweed is used in the basic mixture. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the seaweed of Morgan as modified by Chiaffredo et al. be added 3 to 6 parts by weight of seaweed is used in the basic mixture, depending on the type of plant to which the mixture is applied and depending on how potent or not the user wishes the mixture to be.

Mankiewicz teaches in the same field of endeavor of soil mixture as Morgan in which Mankiewicz employs electrons in his mixture for affecting the solubilities and availabilities of minerals at varying oxidation and reduction states, and for facilitating anaerobic processes modifying mineral availability as well as pollutant removal

capacity, wherein the powder mixture is oversaturated with electrons and has an excess of negative electric charges (col. 7,lines 40-60). It would have been obvious to one having ordinary skill in the art at the time the invention was made to saturate or oversaturate the mixture of Morgan with electrons to at least electrical neutrality or in excess of negative electric charges as taught by Mankiewicz in order to affect the solubilities and availabilities of minerals at varying oxidation and reduction states, and to facilitate anaerobic processes modifying mineral availability as well as pollutant removal capacity.

For claim 5, Morgan as modified by Mankiewicz and Chiaffredo et al. teaches a wide range of formulations with various ingredients in the mixture can be combined with different concentration (col. 4,lines 1-39 of Morgan). However, Morgan as modified by Mankiewicz and Chiaffredo et al. does not specifically states wherein the basic mixture comprises from 1 to 50 parts by weight of organic raw material, 0.1 to 60 parts by weight of thickening agent and from 2-50 parts by weight of pigment. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the basic mixture of Morgan as modified by Mankiewicz and Chiaffredo et al. comprises from 1 to 50 parts by weight of organic raw material, 0.1 to 60 parts by weight of thickening agent and from 2-50 parts by weight of pigment, depending on the type of plant to which the mixture is applied and depending on how potent or not the user wishes the mixture to be.

For claim 7, Morgan as modified by Mankiewicz and Chiaffredo et al. teaches wherein the organic raw material is any material originating from the natural

environment, the animal or plant kingdom, and that, in a dried and ground state, contains fibres and adhesive compounds so that the material will function as a binder in the resulting film or membrane (col. 2,lines 52-65,col. 3,lines 10-25,40-67 of Morgan).

For claim 10, Morgan as modified by Mankiewicz and Chiaffredo et al. is silent about employing sea grass comprises at least one of the species Spartina or reeds, instead of seaweed. It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ sea grass instead of the seaweed of Morgan as modified by Mankiewicz and Chiaffredo et al., depending on the type of plant to which the mixture is applied and depending on how potent or not the user wishes the mixture to be.

For claims 14,61, Morgan as modified by Mankiewicz and Chiaffredo et al. teaches wherein the pigment is a dry powder having light characteristics for forming a film or membrane having a high degree of reflection, the pigment comprising one or more substances selected from the group consisting of stone, lime, sand, clay, chalk, shells, white mineral pigments, titanium oxide, white plant dyes and white plant fibres (col. 3,lines 10-20,col. 5,lines 5-9 of Morgan). However, Morgan as modified by Mankiewicz and Chiaffredo et al. is silent about the pigments being added in an amount of from 0.1 to 25 parts by weight, or from .1 to 10 parts by weight. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the pigments of Morgan as modified by Mankiewicz and Chiaffredo et al. being added in an amount of from 0.1 to 25 parts by weight, or from .1 to 10 parts by weight,

depending on the type of plant to which the mixture is applied and depending on how potent or not the user wishes the mixture to be.

For claims 15,62, Morgan as modified by Mankiewicz and Chiaffredo et al. teaches wherein the pigment is a dry powder having dark characteristics for forming a film or membrane having a low degree of reflection, the pigment comprising one or more substances selected from the group consisting of ash, coal, soot, carbon black, graphite, elementary carbon, ochre, bone, animal shells, marine shells, fish-scales, mineral pigments, plant dyes, plant pigments, and algae-based components (col. 3,lines 1-7,col. 5,lines 1-19 of Morgan). However, Morgan as modified by Mankiewicz and Chiaffredo et al. is silent about the pigments being presented in an amount of from 0.1 to 25 parts by weight, or from 0.1 to 10 parts by weight. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the pigments of Morgan as modified by Mankiewicz and Chiaffredo et al. be added in an amount of from 0.1 to 25 parts by weight, or from 0.1 to 10 parts by weight, depending on the type of plant to which the mixture is applied and depending on how potent or not the user wishes the mixture to be.

For claim 18, Morgan as modified by Mankiewicz and Chiaffredo et al. teaches wherein the mixture further comprises one or more substances selected from the group consisting of binders (col. 3,lines 40-67 of Morgan), preservatives, fertilizers (col. 3,lines 29-39 of Morgan), water stabilizers, mineral salts, pH regulators (col. 3,lines 35-39 of Morgan), antioxidants (col. 5,lines 9-11 of Morgan) and electrically conductive substances.

For claims 20,63, Morgan as modified by Mankiewicz and Chiaffredo et al. teaches wherein the binders comprise organic glue and adhesive agents having a high protein content, the organic glue and adhesive agents being one or more substances selected from the group consisting of albumin glue, casein glue, animal glue, agar, alginic acid, ground acorn barnacles, latex and sap (col. 3,lines 40-67 of Morgan). However, Morgan as modified by Mankiewicz and Chiaffredo et al. is silent about the binders are added in an amount of from 0.1 to 15 parts by weight, or 0.1 to 5 parts by weight. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the binders of Morgan as modified by Mankiewicz and Chiaffredo et al. be added in an amount of from 0.1 to 15 parts by weight, or 0.1 to 5 parts by weight, depending on the type of plant to which the mixture is applied and depending on how potent or not the user wishes the mixture to be.

For claim 22, Morgan as modified by Mankiewicz and Chiaffredo et al. teaches wherein the binders further comprise one or more fibres selected from the group consisting of cellulose fibre, plant fibre, textile fibre, animal fibre and reinforcing fibre (col. 2,lines 52-65,col. 3,lines 40-67 of Morgan). However, Morgan as modified by Mankiewicz and Chiaffredo et al. is silent about the fibre materials are present in an amount of from 0.5 to 30 parts by weight. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the fibre materials of Morgan as modified by Mankiewicz and Chiaffredo et al. be added in an amount of from 0.5 to 30 parts by weight, depending on the type of plant to which the mixture is applied and depending on how potent or not the user wishes the mixture to be.

For claims 24,64,65, Morgan as modified by Mankiewicz and Chiaffredo et al. teaches wherein the fertilizer agents comprise one or more fertilizers selected from the group consisting of animal manure, fish guano, guano, urea, inorganic nutrient salts and micronutrients (col. 3,lines 29-39 of Morgan). However, Morgan as modified by Mankiewicz and Chiaffredo et al. is silent about the fertilizer materials are present in an amount of from 0.1 to 20, or 0.1 to 15, or 0.1 to 5 parts by weight of dry powder. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the fertilizer materials of Morgan as modified by Mankiewicz and Chiaffredo et al. be added in an amount of from 0,1 to 20, or 0.1. to 15, or 0.1 to 5 parts by weight of dry powder, depending on the type of plant to which the mixture is applied and depending on how potent or not the user wishes the mixture to be.

For claims 26,66, Morgan as modified by Mankiewicz and Chiaffredo et al. teaches wherein the electrically conductive additives comprise one or more substances selected from the group consisting of readily soluble mineral salts, ash, and carbon fibres (col. 4,lines 5-10,col. 6,lines 1-10 of Mankiewicz). However, Morgan as modified by Mankiewicz and Chiaffredo et al. is silent about the electrically conductive substances are being present in an amount of from 0.1 to 15 or 0.1 to 5 parts by weight of dry powder. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the electrically conductive substances of Morgan as modified by Mankiewicz and Chiaffredo et al. be added in an amount of from 0.1 to 15, or 0.1 to 5 parts by weight of dry powder, depending on the type of plant to which

the mixture is applied and depending on how potent or not the user wishes the mixture to be.

For claims 28,67,68, Morgan as modified by Mankiewicz and Chiaffredo et al. teaches wherein the water stabilizers comprise one or more substances selected from the group consisting of plant oils, mucilage, organic waxes and organic oils (col. 3,lines 51-52,col. 4,line 58 of Morgan). However, Morgan as modified by Mankiewicz and Chiaffredo et al. is silent about the water stabilizers are present in an amount of from 0.1 to 8.0, or from 0.1 to 25, or from 0.1 to 5 parts by weight of dry powder. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the water stabilizers of Morgan as modified by Mankiewicz and Chiaffredo et al. be added in an amount of from 0.1 to 8.0, or from 0.1 to 25, or from 0.1 to 5 parts by weight of dry powder, depending on the type of plant to which the mixture is applied and depending on how potent or not the user wishes the mixture to be.

For claims 30 & 69, Morgan as modified by Mankiewicz and Chiaffredo et al. teaches wherein the pH regulators comprise one of more substances selected from the group consisting of sap, basic minerals, ash, and salts of the alkaline and alkaline earth metals (col. 3,lines 30-39 of Morgan). However, Morgan as modified by Mankiewicz and Chiaffredo et al. is silent about the pH regulator is present in an amount of from 0.1 to 50, or from 0.1 to 10. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the pH regulator of Morgan as modified by Mankiewicz and Chiaffredo et al. be added in an amount of from 0.1 to 50, or from 0.1

to 10, depending on the type of plant to which the mixture is applied and depending on how potent or not the user wishes the mixture to be.

For claims 32 & 70, Morgan as modified by Mankiewicz and Chiaffredo et al. is silent about wherein the pH regulators are added in such quantity that the resulting membrane or film has a pH that is greater than 5, or in the range of pH 5 to 10. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the pH regulators of Morgan as modified by Mankiewicz and Chiaffredo et al. be added in such quantity that the resulting membrane or film has a pH that is greater than 5, or in the range of pH 5 to 10, depending on the type of plant to which the mixture is applied and depending on how potent or not the user wishes the mixture to be.

For claim 60, Morgan as modified by Mankiewicz and Chiaffredo et al. teaches wherein the white plant fibers are one or more substances selected from the group consisting of cotton, bog cotton or algae based components (col. 3,lines 1-7,col. 5,lines 1-19 of Morgan).

3. **Claims 4,6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morgan as modified by Mankiewicz and Chiaffredo et al. as applied to claim 1 above, and further in view of Wake et al. (JP2195830).**

Morgan as modified by Mankiewicz and Chiaffredo et al. is silent about wherein the basic powder mixture includes a growth medium for microalgae, and wherein the basic mixture contains from 0.t to 10 parts by weight of microalgae.

Wake et al. teach in the same field of endeavor of soil mixture as Morgan in which Wake et al. employs microalgae in their mixture to promote germination (see Abstract). It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ microalgae as taught by Wake et al. in the mixture of Morgan as modified by Mankiewicz and Chiaffredo et al. in order to promote germination.

Morgan as modified by Mankiewicz, Chiaffredo et al. and Wake et al. is silent about wherein the basic mixture contains from 0.1 to 10 parts by weight of microalgae. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the basic mixture of Morgan as modified by Mankiewicz, Chiaffredo et al. and Wake et al. containing from 0.1 to 10 parts by weight of microalgae, depending on the type of plant to which the mixture is applied and depending on how potent or not the user wishes the mixture to be.

4. **Claims 11,12 & 59 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morgan as modified by Mankiewicz and Chiaffredo et al. as applied to claim 1 above, and further in view of Wallace et al. (4797145).**

For claim 11, Morgan as modified by Mankiewicz and Chiaffredo et al. is silent about wherein the thickening agent is xanthan or xanthan gum, the xanthan or xanthan gum being present in an amount of from 0.1 to 6 parts by weight.

Wallace et al. teach in the same field of endeavor of soil mixture as Morgan in which Wallace et al. employ xanthan gum in their mixture for thickening agent (col. 5,lines 5-15). It would have been obvious to one having ordinary skill in the art at the

time the invention was made to employ xanthan gum as taught by Wallace et al. for the thickening agent in the mixture of Morgan as modified by Mankiewicz and Chiaffredo et al., depending on the type of plant to which the mixture is applied and depending on how potent or not the user wishes the mixture to be.

For claims 12,59, Morgan as modified by Mankiewicz and Chiaffredo et al. is silent about wherein the thickening agent comprises one or more alginates, the alginates being admixed and replacing at least part or all of the xanthan or xanthan gum.

In addition to the above, Wallace et al. also teach alginates admixed together or not with xanthan gum (col. 5,lines 5-15). It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ alginates together with or without xanthan gum as taught by Wallace et al. for the thickening agent in the mixture of Morgan as modified by Mankiewicz and Chiaffredo et al., depending on the type of plant to which the mixture is applied and depending on how potent or not the user wishes the mixture to be.

Response to Arguments

5. Applicant's arguments filed 8/15/2011 have been fully considered but they are not persuasive. The arguments have been addressed in the final rejection mailed on 3/14/2011, thus, please see the final rejection. However, arguments that were not addressed in the final rejection will be addressed herein.

Applicant argued that Mankiewicz fails to suggest the use of a water-soluble, dried and ground organic raw material comprising vegetable debris that

is at least one of dried and ground seaweed, sea grass, or kelp, and wherein the mixture comprises 3 to 6 parts by weight of the vegetable debris according to the presently claimed invention.

Mankiewicz was not relied on for the use of a water-soluble, dried and ground organic raw material comprising vegetable debris that is at least one of dried and ground seaweed, sea grass, or kelp, and wherein the mixture comprises 3 to 6 parts by weight of the vegetable debris according to the presently claimed invention, thus, the argument is mooted.

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to SON T. NGUYEN whose telephone number is (571)272-6889. The examiner can normally be reached on Mon-Thu from 10:00am to 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter M. Poon can be reached on 571-272-6891. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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